WORLDHEART

WORLD HEART CORPORATION

1998 ANNUAL REPORT

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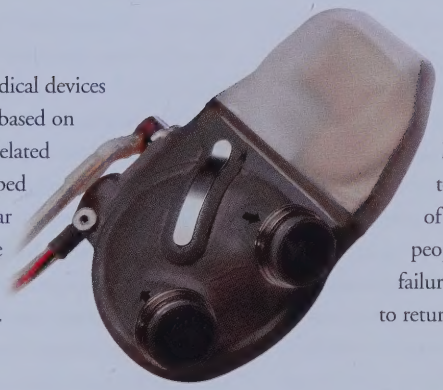
THE WORLDHEART MISSION

To be a global medical devices business initially based on HEARTSAVER VAD™ and related technologies developed by the Cardiovascular Devices Division of the University of Ottawa Heart Institute.



HEARTSAVER VAD™ is an affordable, fully implantable heart assist device designed to provide long term support of pulsatile blood flow to people suffering from heart failure and permit the recipient to return to near normal life activities.

MESSAGE FROM THE CHAIRMAN & THE PRESIDENT

World Heart Corporation (WorldHeart) focused on three areas of growth during 1998:

- Bringing HEARTSAVER VAD™ from final design to production;
- Enhancing management and staff to deliver the opportunities of 1999 and 2000; and,
- Building shareholder value, liquidity and balance sheet strength.

In each of these areas the results for the year met or exceeded internal forecasts and external expectations.

The primary factor affecting the present and future value of WorldHeart is the timely and successful introduction of HEARTSAVER VAD™ as a long term treatment for heart failure. Effective business and financial management both support and reflect the progress toward this milestone. Results in 1998 maintain our confidence that in 1999 the first heart failure patient will benefit from the ten-year, $48 million product investment that has produced HEARTSAVER VAD™.

Entering the year, the Corporation was in the process of commissioning clean rooms and equipment for production in the new facility, having received the final design and specifications for HEARTSAVER VAD™ three weeks before the new year. By the end of 1998 all components were in production, either internally or from third party suppliers, and HEARTSAVER VAD™ systems were being assembled at our facility. The first *in vivo* trial of the manufactured product was successfully completed in December.

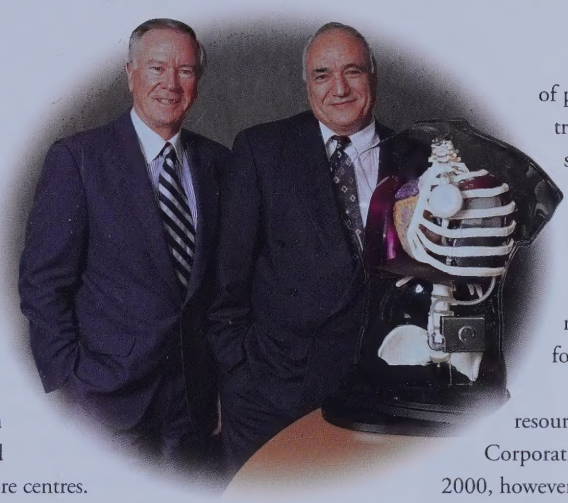
To assist our shareholders in assessing progress during the year, the Corporation set out the primary product development milestones for each quarter. Each milestone was met, although the final stage in the Q4 milestone was completed on January 10, 1999. In addition, research and development advances were made on the next generation HEARTSAVER VAD™, and on independent products applying our Energy Transfer and Biotelemetry technologies. Total expenses for the year were below forecasts.

Management and staff continued to be strengthened by both the experience gained by those who joined us in 1996 and 1997, and by the addition of highly qualified people during the year, including the Director Clinical Trials, Director Manufacturing and Director Documentation.

Response to the Corporation in capital markets was positive during 1998, with the number of shareholders estimated at more than 30,000, research coverage being initiated by two additional investment dealers, and the shares of the Corporation commencing trading on The Toronto Stock Exchange and the Nasdaq National Market. These factors, together with continued performance in our program to profitability will contribute to shareholder value, liquidity and access to capital for continued growth.

The program to profitability in fiscal year 2001 is based upon clinical trials being conducted in Canada, Europe and certain other countries during 2000. Commencement of clinical trials in Canada requires approval of Health Canada following submission of a request by the Corporation. It is the intention of the Corporation to make this submission to Health Canada during 1999, and with Health Canada's approval, to make the first clinical implant of HEARTSAVER VAD™ before year-end. Based upon successful clinical trials in Canada and other countries during 2000 it is the Corporation's intention to apply to the FDA in the United States for an Investigative Device Exemption to permit clinical trials in the United States in 2001.

Significant milestones remain to be achieved before the submission can be made to Health Canada for approval of clinical trials. Many of the challenges to be overcome in 1999 relate to manufacturing and quality assurance in production of final pre-clinical systems. To assist shareholders in assessing progress in 1999 each quarterly report will summarize status in relation to key milestones:



Quarter 1 Production of initial systems for formal *in vitro* and *in vivo* tests and acute (short-term) *in vitro* and *in vivo* tests.

Quarter 2 Long-term *in vitro* durability tests and chronic *in vivo* trials in two or more centres.

Quarter 3 Continue multiple system long-term *in vitro* durability tests and *in vivo* trials in four or more centres.

Quarter 4 Completion of application to Health Canada, including *in vitro* and *in vivo* test and trial results; submission to Health Canada for approval of clinical trial program; and, first human implant, subject to Health Canada approval.

Objectives for 1999 are achievable, although timing is subject to variations inherent in a new manufacturing process for a highly innovative product.

In step with the evolution of HEARTSAVER VAD™ through the manufacturing and trial process, the research and development capacity will increase its focus on the next generation HEARTSAVER VAD™, including further miniaturization and added functionality. In addition, research and development will be undertaken to advance additional product applications for the Corporation's Energy Transfer and Biotelemetry technologies.

The Corporation entered 1999 with cash resources of $14.7 million, compared with $5.5 million at the beginning of 1998. This cash position reflects continued careful control of expenditures and the issue of common shares by the Corporation in June 1998 for net proceeds of $12.9 million.

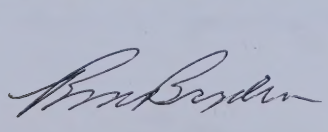
As forecast, the operating loss for 1998 was substantially lower than in 1997. Expenses for 1999 will increase, reflecting production costs of pre-clinical and clinical trial HEARTSAVER VAD™ systems, and expansion of the research and development program for next generation products. No material revenues are forecast for the year.

Existing financial resources will fund the Corporation into fiscal year 2000, however, the Corporation expects to raise additional equity capital during the current year to assure financial strength to maximize returns to shareholders from the technologies which are believed to be at the leading edge of our industry.

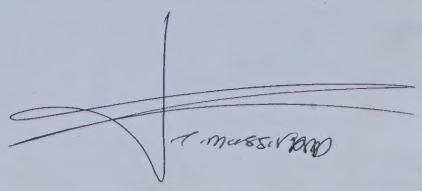
The Corporation's research and development program continues to be conducted under contract by the University of Ottawa Heart Institute (OHI) Cardiovascular Devices Division (CVD). Performance continues to be excellent in quality, timeliness and cost. Pre-clinical preparations and trials, and management of clinical trials is also being delivered under the Research and Development contract, with staff of WorldHeart integrated with medical and technical staff of OHI and CVD in a highly efficient and effective team. The outstanding work of more than 167 full and part time people have permitted the Corporation to achieve its objectives to date. This team and the colleagues who will join the team will be key factors in achieving our future goals.

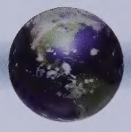
We look forward to reporting to our shareholders a year from now about the first recipients who have returned to near normal life activities with the support of HEARTSAVER VAD™.

RODERICK M. BRYDEN
CHAIRMAN AND CHIEF EXECUTIVE OFFICER



DR. TOFY MUSSIVAND
PRESIDENT AND CHIEF OPERATING OFFICER





"THE SINGLE BIGGEST DRAWBACK OF CURRENT GENERATION DEVICES IS THE PERCUTANEOUS CONNECTION TO THE EXTERNAL POWER SOURCE TO PROVIDE A VENT FOR THE PUMP. THE PERCUTANEOUS SITE IS A SOURCE OF INFECTION AND PROHIBITS THE PATIENT FROM MANY ACTIVITIES. A FULLY IMPLANTABLE PUMP WOULD OVERCOME THESE DRAWBACKS."

Source: COWEN Perspectives, Cardiology Device Update, December 1997

THE HEARTSAVER VAD™ MARKET

THE SCOPE OF THE NEED

The American Heart Association, in its 1998 Heart and Stroke Statistical Update, estimates 400,000 new cases of Congestive Heart Failure each year and identifies Heart Failure as the cause, or contributing cause, of 440,000 deaths each year in the United States alone.

Canada experiences Heart Failure incidence and death levels similar to those in the U.S.

Heart Failure is a worldwide problem, with incidence and deaths in many developed and developing countries comparable to rates in the U.S. and Canada. There is no widely practiced long term treatment for the condition except for human heart transplant. Only about 4,000 donor hearts are available annually in the world, while demand is in the hundreds of thousands. There were 2,361 heart transplants performed in the United States in 1995 and 2,345 in 1996.

THE COST OF HEART FAILURE

According to the American Heart Association's 1997 Heart and Stroke Statistical Update, the estimated cost of Congestive Heart Failure in the United States is $18.8 billion per year and rising. Annual costs are estimated to exceed $2 billion in Canada and $200 billion worldwide. Congestive Heart Failure is the largest single reason for hospital admissions for patients 65 and older, while approximately 40% of sufferers are in a productive stage of their lives, being 65 or younger.

VAD IS A PROVEN TREATMENT

Pulsatile Ventricular Assist Devices (VADs), using pumps that are either externally placed or abdominally implanted, have been proven to be effective in supporting patients with a failing heart.

More than 7,000 patients have been supported by pulsatile VADs, some for more than two years, while awaiting a heart transplant.

HEARTSAVER VAD™ – a fully implantable pulsatile VAD, scheduled for first human implant in 1999, is believed by WorldHeart to have significant advantages over existing approved ventricular assist devices:

- **No permanent body openings**
- **No diaphragm perforations**
- **Remotely powered**
- **Remotely monitored and controlled**

HEARTSAVER VAD™ is designed to enable recipients to be discharged from the hospital and to return to near normal life activities.

The expected price of US$50,000 per system appears to be competitive with existing external and abdominally implanted VADs and with natural heart transplant costs.

Currently, the decision to use a VAD is made when death is imminent and the majority of the treatment costs have already been incurred. WorldHeart believes that the unique attributes and conveniences of HEARTSAVER VAD™ will encourage both Heart Failure patients and their physicians to welcome a VAD implant at a significantly earlier stage in the disease. As a result, the cost of the implant and the related post-operative care will be offset by savings realized in the alternative treatment costs for patients with end-stage Heart Failure.

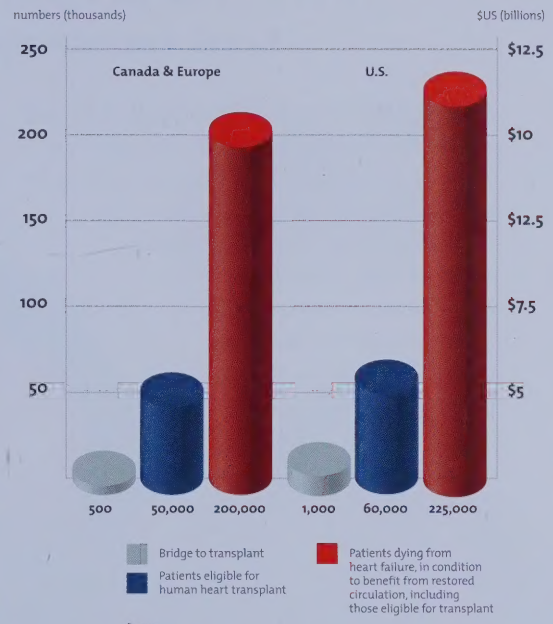
The market penetration strategy is to seek regulatory approval and markets first in Canada and selected other countries, commencing with clinical trials in 1999 and market approvals targetted for 2000 and 2001. Regulatory approval for use in the United States is intended to be sought soon after clinical use is established in Canada and selected other countries.

The most immediate market will be meeting the needs of patients with end-stage Heart Failure who can reasonably benefit from HEARTSAVER VAD™.

WorldHeart believes that the long term market for HEARTSAVER VAD™ will include other patients in Class III and IV[1] stages of Heart Failure for whom the device can be of benefit with reasonable outcome, including the reduction in the progress of deterioration in physical well-being. WorldHeart believes that the advantages of HEARTSAVER VAD™ over the existing treatments, and its convenience for the recipient will lead to an implant earlier in Class IV patients and potentially in Class III patients as well, significantly enhancing the cost/benefit of HEARTSAVER VAD™.

1 - New York Heart Association Congestive Heart Failure Classification.

MARKET DEMAND



Source:
* The Artificial Heart, Prototypes, policies and patents
Hogness JR, Van Antwerp M (eds), National Academy Press Washington, DC, USA 1991
* American Heart Association 1997 Heart and Stroke Statistical Update

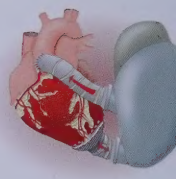
CONGESTIVE HEART FAILURE: ANNUAL DEATHS & POPULATION

Sources:
1) American Heart Association
2) World Health Organization
3) National Heart, Lung and Blood Institute, National Institutes of Health

THE HEARTSAVER VAD™ SYSTEM

FROM PROVEN CONCEPT TO REALITY

1997



At the end of 1997 the documentation of designs and specifications for the HEARTSAVER VAD™ system were complete. The challenge in 1998 was to transform these system requirements into reality.

During 1998, the first pre-clinical HEARTSAVER VAD™ systems and their major subsystems were produced in WorldHeart's manufacturing plant and were functioning as part of systems integration testing.

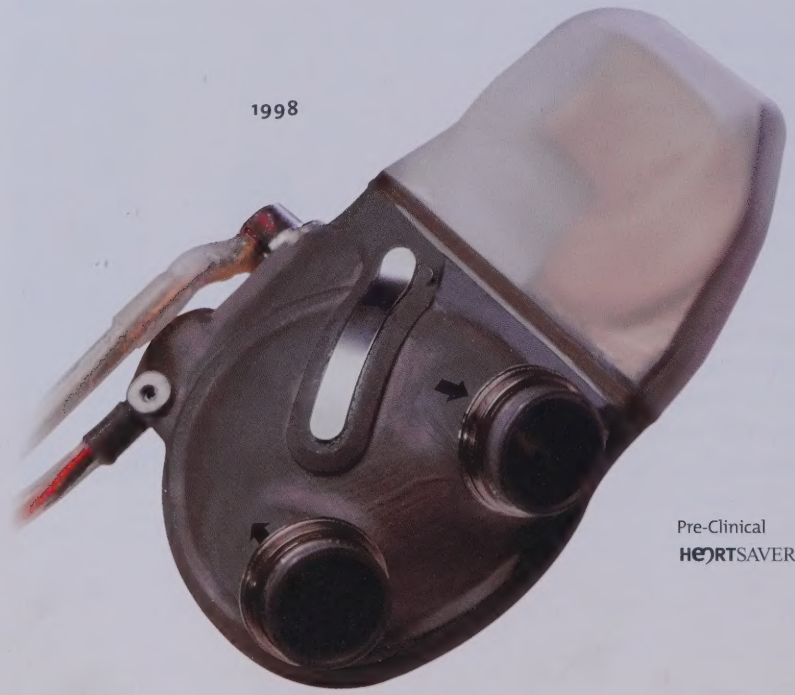
HEARTSAVER VAD™, is a pulsatile VAD with a patented shape that follows the contour of the chest wall to connect with short conduits to the apex of the left ventricle of the natural heart and to the ascending aorta. The implanted system has a volume of about 530 ml.

HEARTSAVER VAD™ responds to the inflow of blood to the natural heart, varying beat rate to reflect body requirements.

1998

1997

1998

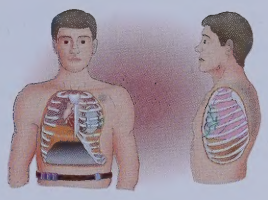


Pre-Clinical
HEARTSAVER VAD™

FITS IN THE CHEST

The HEARTSAVER VAD™ system is designed to be fully implanted in the chest. The device is also designed to be anchored to the rib cage, powered by electricity transferred to the device across intact skin and tissue, and monitored and controlled by a remote bi-directional data acquisition system.

1997



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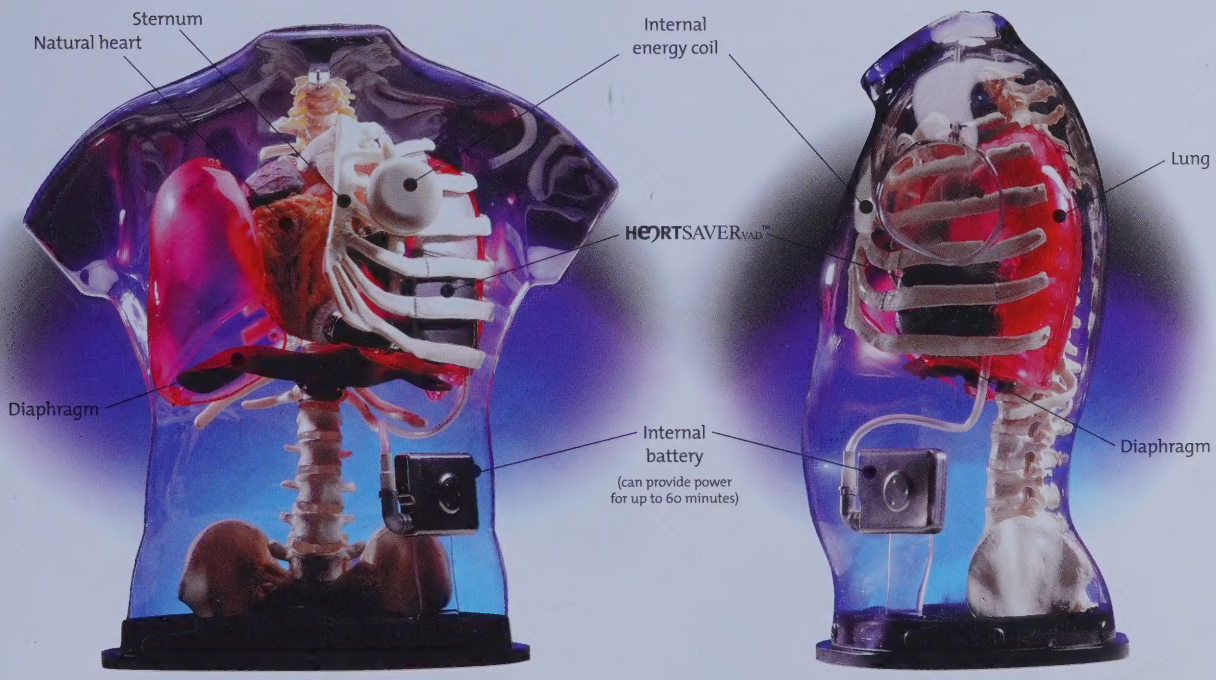


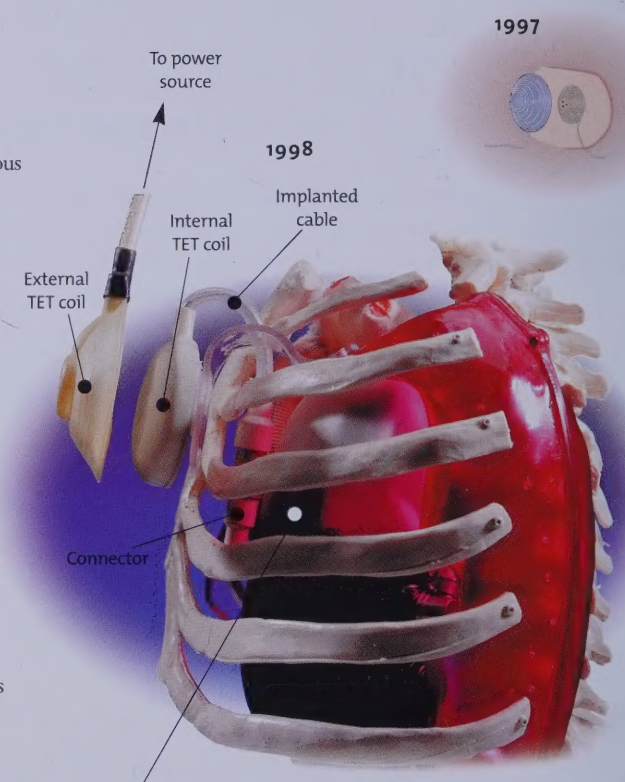
The fit of HEARTSAVER VAD™ within the human chest has been tested to confirm the anatomical fit at the University of Ottawa Heart Institute and The Cleveland Clinic Foundation.

Remotely Powered

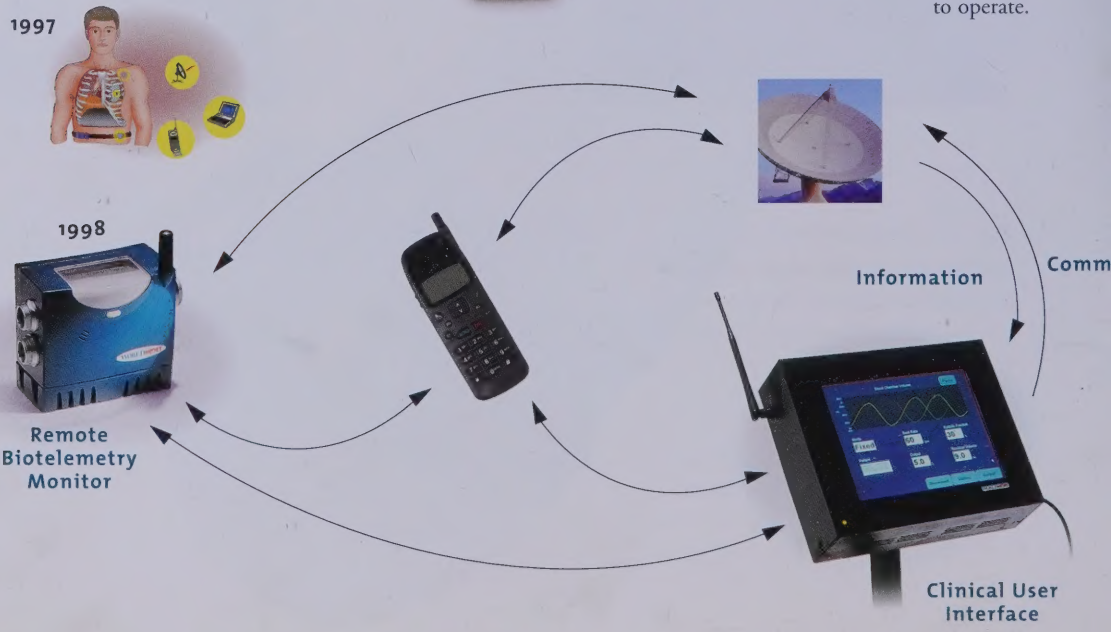
Power is supplied through the implanted Transcutaneous Energy Transfer (TET) coil, which also recharges the implanted battery. The patented TET provides safe and secure electricity transfer from external power sources. A battery belt or shoulder pack can provide 8 hours of power.

Remotely Monitored and Controlled

HEARTSAVER VAD™ uses a wireless Biotelemetry System to provide remote patient and device monitoring. This system provides the physician or health care professional with the ability to monitor, and if required, to modify operating parameters of the implanted device, without having to bring the recipient to the hospital. The Biotelemetry System is expected to significantly reduce the number of visits to the hospital for routine device assessments and to provide additional peace of mind to the device recipient, thereby offering them increased freedom and an improved quality of life.



A custom designed microchip, or ASIC, built into the implan device to enable HEARTSAVER VAD™ to operate.



Technology For Life

" In the future, circulatory support systems will become smaller and more durable. The ultimate goal is a fully implantable pump without components that traverse the skin barrier."

Source: Frazier OH, Myers TJ, Radovancevic B. The HeartMate® left ventricular assist system: overview and 12-year experience. Tex Heart Inst J 1998; 25:265-71.

HEARTSAVER VAD™ will have few limitations on the lifestyle of the recipient and will be hardly noticeable to other people.

The device is totally implantable and there are no perforations in the skin.

The external components of the system can be removed for up to one hour at a time so that physical activities, like swimming, can be enjoyed.

THE PROGRAM TO MARKET

During 1998, the achievements in product manufacturing and testing were consistent with plans for the first human implant of HEARTSAVER VAD™ in late 1999.

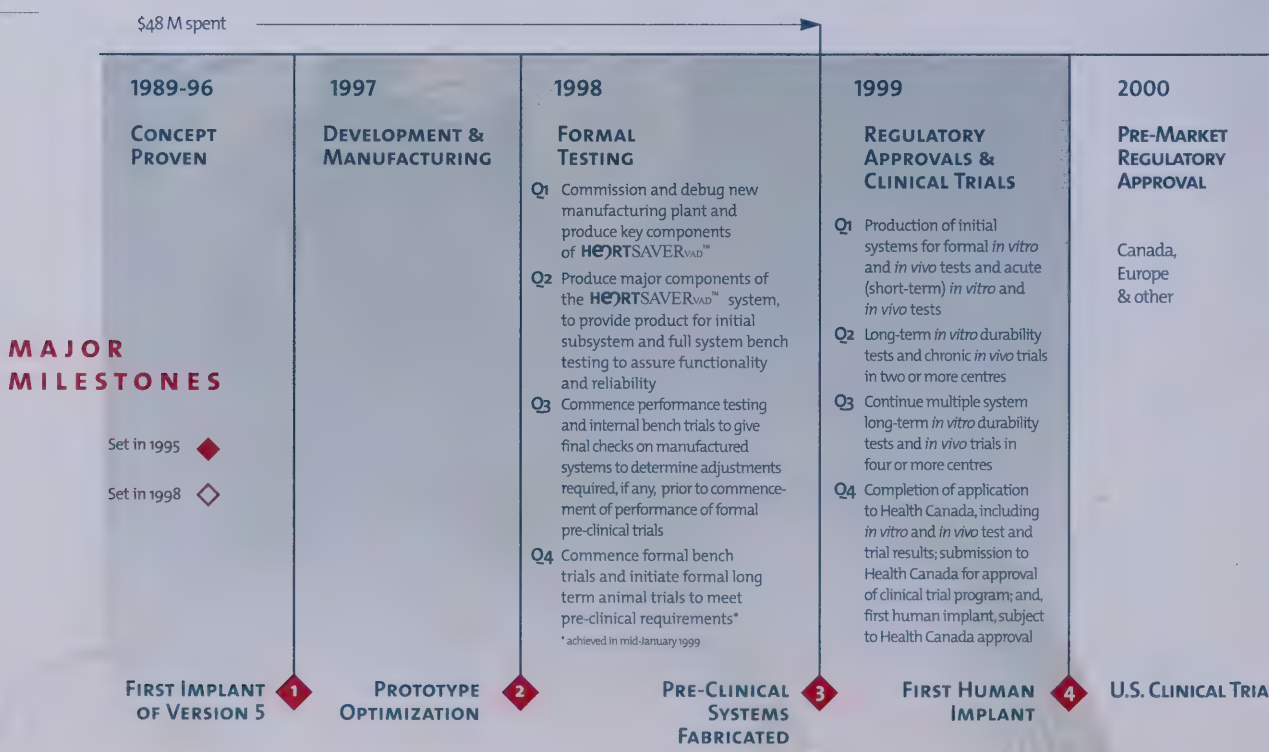
At the beginning of the year, the manufacturing facilities were completed and key machinery was installed and tested to allow the production of prototype devices to begin. The challenge during 1998 was to produce this unique product, made up of several highly innovative components, in accordance with a pre-defined schedule. WorldHeart achieved its major milestone in 1998 by successfully completing the fabrication of the first four pre-clinical HEARTSAVER VAD™ systems.

The Corporation published quarterly milestones at the outset of the year to assist shareholders in assessing progress. At the end of each of the first three quarters, the milestones were achieved as forecast. The milestone for the fourth quarter was achieved in mid-January 1999.

The highlights of the year's achievements include:

RESEARCH & DEVELOPMENT

- A second United States Patent #5,704,891 was issued for HEARTSAVER VAD™.
- Canadian Patent #2,074,150 was issued covering the enhanced Transcutaneous Energy Transfer System.
- Notice was received from the European Patent office of the intent to issue a European Patent for HEARTSAVER VAD™.
- HEARTSAVER VAD™ volume was reduced by 11% to 530 ml.
- Clinical conduits were designed and fabricated.
- External battery control circuitry prototype design was completed.
- Design adjustments reflecting 1998 product test results were made to facilitate product manufacturing during 1999.



Manufacturing & Testing

- A Class 100 clean room was completed and robots and other key machinery and equipment were installed.
- Components, subsystems and the titanium housing of HEARTSAVER VAD™ were produced and bench testing began.
- Transcutaneous Energy Transfer prototype systems were manufactured for internal use and for sale to Japan and the U.S.
- Implantable connectors and custom Application Specific Integrated Circuit (ASIC) engineering designs were completed.
- Testing of the custom designed ASIC began.
- System software integration testing commenced.
- Tests conducted at the University of Ottawa Heart Institute and The Cleveland Clinic Foundation confirmed device fit within the chest cavity.

Other Significant Events

- Full-time employees increased by 45% to 77, reflecting growth in Engineering and Manufacturing.
- Negotiations began in Europe, South America and the Middle East for selecting several centres to participate in clinical trials.
- The Corporation's shares were listed for trading on The Toronto Stock Exchange and upgraded to the Nasdaq National Market.

During 1999 WorldHeart will continue to manufacture pre-clinical devices for formal bench and animal trials to seek Health Canada approval to initiate clinical use in late 1999.

These trials will utilize the HEARTSAVER VAD™ systems produced in the Corporation's facilities. It is expected that a number of medical centres, in addition to the University of Ottawa Heart Institute, will participate in the *in vivo* trials, including The Cleveland Clinic Foundation.

Clinical trial approval will be sought first in Canada, with trials in selected countries outside North America expected shortly after commencement of the Canadian trials. A number of respected clinics and major medical centres from around the world have expressed a desire to participate in the clinical program.

It is WorldHeart's intention to seek approval for long term use by patients in Class III and IV stages of Heart Failure.

The established record of pulsatile ventricular assist devices as a treatment for Heart Failure is expected to assist in a timely process for market approval of the system.

WorldHeart believes that approval can be obtained in Canada and selected other countries during 2000, but there can be no assurance that this will be achieved.

The submission for regulatory approval in the United States will be pursued in 2000. Approvals in the U.S. are expected to follow establishment of use in Canada and selected other countries.

KEY WORLDHEART RESOURCES

WORLDHEART SENIOR MANAGEMENT TEAM

This management team brings competitive leadership in corporate strategy, product research and development, financial capital markets and management, manufacturing and management systems. WorldHeart is confident that it will continue to attract top quality people to meet its evolving executive needs.

Left to Right
Back row:
Robert W. Corson, Dani Kennedy,
W. David Keys, Ian W. Malone
Front row:
Roderick M. Bryden, Dr. Tofy Mussivand

RODERICK M.BRYDEN

Chairman & Chief Executive Officer

A successful entrepreneur and leader in building a technology based business from start-up to more than $500 million in revenue and 3,000 employees in Canada, the United States, Europe, Asia and Latin America.

DR. TOFY MUSSIVAND

President & Chief Operating Officer

An internationally renowned and recognized scientist with extensive experience in medical devices, including artificial heart experience with the National Institutes of Health, The Cleveland Clinic Foundation, the Ottawa Heart Institute, the Medical Research Council of Canada and numerous regulatory agencies (FDA, Health Canada and ISO).

IAN W. MALONE

Vice-President Finance & Chief Financial Officer

An experienced financial executive who has held numerous senior management positions with major Canadian banks, including Senior Vice-President and Chief General Manager, Swiss Bank Corporation (Canada).

ROBERT W. CORSON

Executive Vice-President Operations

An accomplished executive with senior technical management experience in telecommunications and commissioning plants to ISO standards, as well as, holding the position of CEO in electronic manufacturing businesses, most recently with CompAS Electronics Inc.

DANI KENNEDY

Vice-President Corporate Services

An experienced high-technology executive with senior management roles with multi-national computer system integrator SHL Systemhouse Inc., most recently Vice-President Corporate Information Systems.

W. DAVID KEYS

Vice-President, General Counsel & Corporate Secretary

A Corporate lawyer and executive with extensive in-house legal experience, most recently with Fulcrum Technologies Inc., as Vice-President, Corporate Development, General Counsel and Corporate Secretary.

Professional & Technical Leadership

The Cardiovascular Devices Division (CVD) of the University of Ottawa Heart Institute (OHI) and WorldHeart have created a unique blend of clinical and technical expertise that is unparalleled in the industry. OHI is an international centre of excellence for the prevention, treatment and rehabilitation of heart disease. Regular access to leading scientific and medical personnel greatly assists the Corporation in the commercialization of HEARTSAVER VAD™. WorldHeart is proud of its association with CVD and OHI and recognizes its vital contributions to the Corporation's progress.

Clinical Affairs

Back row, left to right
Dr. Roy Masters
Director Heart Transplantation and Surgery
Erin Reeves
Research Coordinator, Cardiac Surgery
Dr. Paul Hendry
Director Clinical Artificial Heart

Front row, left to right
Dr. Tofy Mussivand
President and Chief Operating Officer World Heart Corporation and Director Cardiovascular Devices Division of the University of Ottawa Heart Institute
Dr. Wilbert J. Keon
Founder and Director General University of Ottawa Heart Institute; Chief, Division of Cardiac Surgery and Chair, Clinical Advisory Board
Regina Blohon
Nurse Manager, Cardiac O.R.

Technical Management Team

The Technical Management Team has grown in strength during 1998 with the addition of senior engineering managers and experienced leaders in the areas of manufacturing and quality systems.

Back row, left to right
Dan Hilton, *Head Finance & Administration (CVD)*
Michael McDonnell, *Director Manufacturing*
Hans Pall, *Electrical Conceptual Design*
Keith Marble, *Manager Mechanical Design Engineering*
Kevin Holmes, *Scientific Publications*

Front row, left to right
Victor Verona, *Director Documentation*
Ufuk Orhun, *Manager Software Design Engineering*
Dave Harrison, *Manager Electrical/Electronic Design Engineering*
Mike King, *Mechanical Conceptual Design*

Clinical Advisory Board

The WorldHeart Clinical Advisory Board is composed of internationally renowned specialists in cardiovascular medicine and has a primary mandate to advise the Corporation and CVD on related issues in the cardiovascular medical field which might have a strategic impact on the Corporation's product development program. The Clinical Advisory Board provides an ongoing informal consultative role, and meets formally in Ottawa once a year.

Dr. Wilbert J. Keon
(Chair) Chief, Division of Cardiac Surgery, Founder & Director General of the University of Ottawa Heart Institute

Prof. A. Calafiore
Associate Professor, Cardiac Surgery; Chief, Division of Cardiac Surgery & Director, School of Specialization in Cardiac Surgery, G. D'Annunzio University, Chieti, Italy

Dr. K. Franco
Associate Professor of Cardiothoracic Surgery, Department of Surgery, School of Medicine; Director, Heart & Lung Transplantation & Principal Investigator for the Wearable Novacor® LVAS, Yale University

Dr. H. Frazier
Chief of Cardiopulmonary Transplantation, Texas Heart Institute; Chief of Transplantation, St. Luke's Hospital; Director, Cullen Cardiovascular Research Laboratories, Texas Heart Institute & Chief of Cardiovascular and Thoracic Surgery, University of Texas, Houston

Dr. R. Kormos
Associate Professor of Surgery & Director, Artificial Heart Program Division of Cardiothoracic Surgery, University of Pittsburgh Health System

Dr. H. Koyanagi
Professor & Chairman, Department of Cardiovascular Surgery, The Heart Institute of Japan, Tokyo Women's Medical College

Dr. P. McCarthy
Surgical Director, Kaufman Center for Heart Failure, The Cleveland Clinic Foundation

Dr. Y. Nosé
Professor, Department of Surgery, Baylor College of Medicine

Dr. G. Pennington
Howard Holt Bradshaw Professor of Surgery & Chairman, Cardiothoracic Surgery & Director, Division of Surgical Sciences, Wake Forest University School of Medicine

Depth in People

Seventy-seven full-time WorldHeart employees plus 90 clinical and professional specialists support the HEARTSAVER VAD™ program. This multi-disciplined team includes medical professionals who practice at the University of Ottawa Heart Institute and bring their specialized knowledge and experience to WorldHeart. The growth of the engineering and manufacturing teams during 1998 increased the number of WorldHeart employees by forty-five percent. Experienced electrical, mechanical and software engineers are focused on producing the pre-clinical HEARTSAVER VAD™ components. Dedicated technicians are implementing the product testing and manufacturing processes. At the beginning of 1999 senior management and technical staff were added to the team guiding pre-clinical trials and the regulatory approval process.

THE FACILITIES

Under its Research Agreement with WorldHeart, the University of Ottawa Heart Institute (OHI) continues to provide facilities and clinical support for the operation of the Cardiovascular Devices Division (CVD), which is responsible for continuing the research and development of HEARTSAVER VAD™ technologies.

All research for WorldHeart is conducted at, or directed from these facilities.

At the beginning of 1998, WorldHeart completed its move to new premises accommodating its business offices, engineering and bench testing and product manufacturing.

During 1998, the manufacturing infrastructure was established and its capabilities were enhanced through the acquisition of advanced equipment and additional staff. A Class 100 clean room was completed. Robots and other key machinery and equipment were installed. Computerized Numerical Control equipment was installed to support production.

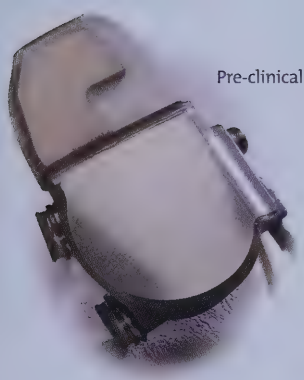
Polyurethane components are manufactured at WorldHeart and include the:

- **Volume Displacement Chamber**
- **Blood Sac**
- **Pumping Diaghragm**

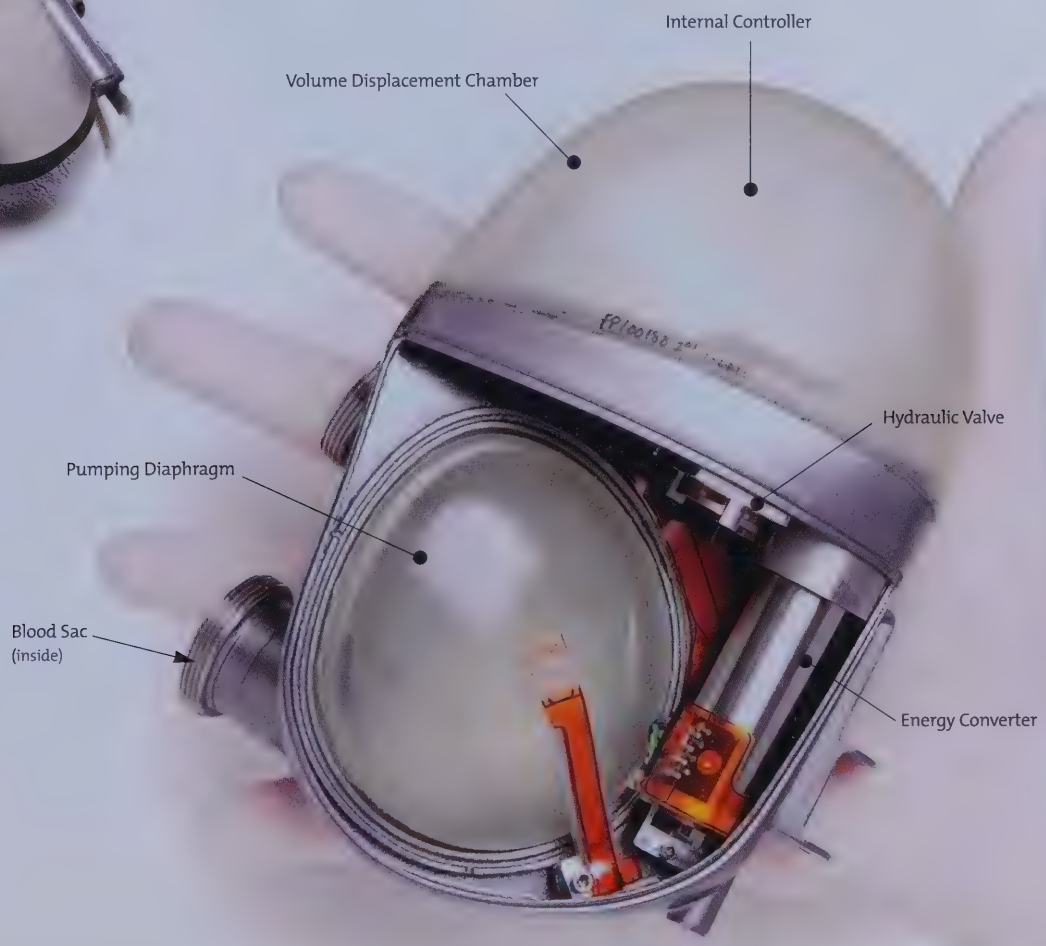
Other components are produced by sub-contractors with final assembly and testing taking place on-site at WorldHeart:

- **Energy Converter**
- **Internal Controller**
- **Hydraulic Valve**
- **TET Coils** (shown on page 8)
- **Implantable Cables and Connectors** (shown on page 8)

The castings for the titanium housings are subcontracted to a third-party with the final machining performed by WorldHeart. The first pre-clinical HEARTSAVER VAD™ systems were produced in WorldHeart's facilities, thereby achieving the Corporation's major milestone in 1998.



Pre-clinical HEARTSAVER VAD™



WorldHeart is confident that it has the management, the professional depth, the strategic guidance, the facilities and the staff to bring HEARTSAVER$_{VAD}$™ to market in a timely manner and to seize the substantial commercial opportunity that HEARTSAVER$_{VAD}$™ represents.

World Heart Corporation
Management's Statement of Responsibility

Management is responsible for the preparation of the financial statements and all other information in the annual report. The financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) and reflect management's best estimates and judgements. The financial information presented elsewhere in the annual report is consistent with the financial statements.

Management has developed and maintains a system of internal controls to provide reasonable assurance that all assets are safeguarded and to facilitate the preparation of relevant, reliable and timely financial information. Consistent with the concept of reasonable assurance, the Corporation recognizes that the relative cost of maintaining these controls should not exceed their expected benefits.

The Audit Committee, which is comprised of independent directors, reviews the financial statements, considers the report of the external auditors, assesses the adequacy of the Corporation's internal controls, and recommends to the Board of Directors the independent auditors for appointment by the shareholders. The financial statements were reviewed by the Audit Committee and approved by the Board of Directors.

The financial statements were audited by PricewaterhouseCoopers LLP, the external auditors, in accordance with generally accepted auditing standards on behalf of the shareholders.

Roderick M. Bryden
Chairman and Chief Executive Officer

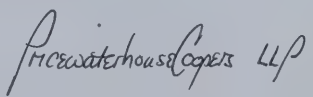
Ian W. Malone
Vice-President Finance and Chief Financial Officer

Auditors' Report to the Shareholders of World Heart Corporation

We have audited the balance sheets of World Heart Corporation as at December 31, 1998 and 1997, and the statements of loss, shareholders' equity and cash flows for the years ended December 31, 1998 and 1997 and the nine months ended December 31, 1996. These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audits in accordance with auditing standards generally accepted in Canada. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Corporation as at December 31, 1998 and 1997 and the results of its operations and its cash flows for the years ended December 31, 1998 and 1997 and the nine months ended December 31, 1996 in accordance with accounting principles generally accepted in Canada.



Chartered Accountants

Ottawa, Canada

January 23, 1999

World Heart Corporation

Balance Sheets

(Canadian Dollars)

	December 31, 1998	December 31, 1997
Assets		
Current assets		
Cash and cash equivalents	**$ 5,561,941**	$ 4,699,915
Short-term investments	**8,571,098**	–
Amounts receivable	**308,240**	305,674
Prepaid expenses	**350,040**	310,244
	14,791,319	5,315,833
Cash pledged as collateral for capital lease (note 10)	**517,444**	784,000
Intangible asset (note 4)	**178,000**	186,000
Fixed assets (note 3)	**995,826**	1,105,069
	$ 16,482,589	$ 7,390,902
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable and accrued liabilities	**$ 950,080**	$ 996,452
Accrued compensation	**221,415**	172,723
Current portion of capital lease payable (note 10)	**130,227**	120,596
	1,301,722	1,289,771
Capital lease obligation (note 10)	**517,444**	652,870
	1,819,166	1,942,641
Contingencies and commitments (notes 8 & 9)		
Shareholders' equity		
Capital stock (note 5)		
Issued and outstanding – 12,243,000 common shares (1997 -10,150,000 common shares)	**30,347,768**	17,467,337
Accumulated deficit	**(15,684,345)**	(12,019,076)
	14,663,423	5,448,261
	$ 16,482,589	$ 7,390,902

Signed on behalf of the Board of Directors

Director **Director**

(The accompanying notes are an integral part of these financial statements.)

World Heart Corporation

Statements of Loss

(Canadian Dollars)

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996
Expenses			
General and administrative	**$ (3,230,687)**	$ (2,624,742)	$ (837,073)
Research and development	**(1,004,038)**	(7,166,038)	(1,788,418)
	(4,234,725)	(9,790,780)	(2,625,491)
Net revenue	**19,062**	–	–
Investment income	**550,394**	353,934	43,261
Net loss for the period	**$ (3,665,269)**	$ (9,436,846)	$ (2,582,230)
Weighted average number of common shares outstanding	**11,078,948**	10,150,000	7,331,418
Basic and fully diluted loss per common share	**$ (0.33)**	$ (0.93)	$ (0.35)

Statements of Shareholders' Equity

(Canadian Dollars)

	Number of Common Shares Issued	Capital Stock	Accumulated Deficit	Shareholders' Equity
Share issues (note 5)				
Founders' shares	6,165,000	$ 6,165	$ –	$ 6,165
Stock issuance to employees and others	685,000	685	–	685
Private placement	550,000	1,584,897	–	1,584,897
Initial public offering	2,750,000	15,875,590	–	15,875,590
Net loss for the nine months ended December 31, 1996	–	–	(2,582,230)	(2,582,230)
Balance as at December 31, 1996	10,150,000	17,467,337	(2,582,230)	14,885,107
Net loss for the year ended December 31, 1997	–	–	(9,436,846)	(9,436,846)
Balance as at December 31, 1997	10,150,000	17,467,337	(12,019,076)	5,448,261
Share issues (note 5)				
Private placement of special warrants converted into common shares	2,093,000	12,880,431	–	12,880,431
Net loss for the year ended December 31, 1998	–	–	(3,665,269)	(3,665,269)
Balance as at December 31, 1998	**12,243,000**	**$30,347,768**	**$ (15,684,345)**	**$ 14,663,423**

(The accompanying notes are an integral part of these financial statements.)

World Heart Corporation
Statements of Cash Flows
(Canadian Dollars)

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996
Cash flows from operating activities			
Net loss for the period	**$ (3,665,269)**	$ (9,436,846)	$ (2,582,230)
Adjustments for:			
Amortization and depreciation	**304,482**	140,108	16,750
Unrealized foreign exchange gain	**–**	–	(18,387)
Change in non-cash working capital (note 11)	**(103,836)**	840,136	179,878
Cash flows from operating activities	**(3,464,623)**	(8,456,602)	(2,403,989)
Cash flows from investing activities			
(Purchase) redemption of short-term investments	**(8,571,098)**	8,123,595	(8,105,208)
Payment of license fee	**–**	–	(200,000)
Purchase of fixed assets	**(123,445)**	(369,220)	(95,587)
(Cash pledged)/reduction in cash pledged as collateral for capital lease	**266,556**	(784,000)	–
Cash flows from investing activities	**(8,427,987)**	6,970,375	(8,400,795)
Cash flows from financing activities			
Capital lease repayments	**(125,795)**	(9,654)	–
Payment of share issue costs	**–**	(466,757)	–
Net proceeds on issue of special warrants	**12,880,431**	–	–
Net proceeds on issues of common shares	**–**	–	17,467,337
Cash flows from financing activities	**12,754,636**	(476,411)	17,467,337
Net increase (decrease) in cash and cash equivalents	**862,026**	(1,962,638)	6,662,553
Cash and cash equivalents, beginning of the period	**4,699,915**	6,662,553	–
Cash and cash equivalents, end of the period	**$ 5,561,941**	$ 4,699,915	$ 6,662,553

(The accompanying notes are an integral part of these financial statements.)

1. Significant Accounting Policies

(a) Basis of presentation

These financial statements have been prepared by management in accordance with accounting principles generally accepted in Canada (GAAP). These principles also conform in all material respects with accounting principles generally accepted in the United States (US GAAP) except as described in Note 12, and include all assets, liabilities, revenues and expenses of World Heart Corporation (Corporation).

(b) Nature of operations

World Heart Corporation was incorporated on April 1, 1996. It is a development company established for the sole purpose of developing a global scale medical devices business based initially on licensed artificial heart and related technologies developed since 1989 by the Cardiovascular Devices Division (CVD) of the Ottawa Heart Institute Research Corporation.

On July 11, 1996, with effect at April 1, 1996, the Corporation entered into a research agreement with CVD (Research Agreement) under which the Corporation has agreed to fund a substantial portion of CVD's remaining research efforts relating to the HeartSaver Ventricular Assist Device (HEARTSAVER VAD™) artificial heart technology, and all of the costs related to the commercialization of the technology. In exchange, the Corporation has acquired joint ownership with CVD of any technology arising from CVD's research pursuant to the Research Agreement after May 15, 1996. CVD has also granted the Corporation an exclusive twenty-five year license to market the product and certain other related technologies for an initial license fee of $200,000 and royalties.

(c) Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

(d) Cash equivalents and short-term investments

Cash equivalents are defined as highly liquid investments with maturities at acquisition of three months or less. Short-term investments are those with terms to maturity in excess of three months but less than one year. All cash equivalents and short-term investments are classified as available for sale.

(e) Investment tax credits

Investment tax credits, which are earned as a result of qualifying research and development expenditures, are recognized when the expenditures are made and their realization is reasonably assured, and are applied to reduce costs and expenses in the year.

(f) Fixed and intangible assets

Capital assets are recorded at cost. Depreciation and amortization are calculated using the following rates and bases. Depreciation and amortization on assets directly related to research and development activities are charged to research and development expense. Depreciation and amortization on assets not directly related to research and development activities are charged to general and administrative expense.

Furniture and fixtures	20% declining balance
Computer equipment	30% declining balance
Telephone equipment	30% declining balance
Clean room under capital lease	20% declining balance
Audiovisual equipment	20% declining balance
Leasehold improvements	Straight-line over the lease term
Intangible assets	Straight-line over the useful life of the asset

(g) Income taxes

Income taxes are provided for using the liability method whereby deferred tax assets and liabilities are recognized using current tax rates on the difference between the financial statement carrying amounts and the respective tax basis of assets and liabilities.

(h) Capital stock

Capital stock is recorded as the net proceeds received on issuance after deducting all share issue costs.

(i) Research and development costs

Research costs, including research performed under contract by third parties, are expensed as incurred. Development costs are also generally expensed as incurred unless such costs meet the criteria under GAAP for deferral and amortization. To qualify for deferral, the costs must relate to a technically feasible, identifiable product which the Corporation intends to produce and market, there must be a clearly defined market for the product and the Corporation must have the resources, or access to the resources, necessary to complete the development. The Corporation has not deferred any such development costs to date.

(j) Foreign currency translation

Assets and liabilities denominated in foreign currencies are translated into Canadian dollars at exchange rates prevailing at the balance sheet date. Expenses are translated at average exchange rates prevailing during the year. Exchange gains and losses are included in earnings.

(k) New accounting pronouncement

The Corporation has adopted the Canadian Institute of Chartered Accountants' new recommendations on the presentation of the statements of cash flows. The Corporation has restated prior years to conform to the new recommendations.

2. Cash and Cash Equivalents and Short-Term Investments

The Corporation's cash equivalents and short-term investments consist of highly liquid, highly rated financial instruments. These cash equivalents and short-term investments represent the Corporation's only significant concentration of credit risk. The Corporation has established guidelines relative to credit ratings, diversification, and terms to maturity designed to mitigate this risk and provide safety and liquidity.

	1998		1997	
	Cash and Cash Equivalents	Short Term Investments	Cash and Cash Equivalents	Short Term Investments
Cash	$ 206,210	$ –	$ 1,266,480	$ –
Government securities	–	–	1,100,000	–
Asset backed notes held with financial institutions	5,873,175	3,028,236	3,117,435	–
Corporate securities	–	5,542,862	–	–
	6,079,385	8,571,098	5,483,915	–
Cash pledged as security for capital lease	(517,444)	–	(784,000)	–
	$ 5,561,941	$ 8,571,098	$ 4,699,915	$ –

3. Fixed Assets

	Cost		Accumulated Amortization		Net Book Value	
	1998	1997	1998	1997	1998	1997
Furniture and fixtures	$ 146,174	$ 127,034	$ 47,707	$ 25,483	$ 98,467	$ 101,551
Computer equipment	71,703	47,554	24,073	11,980	47,630	35,574
Telephone equipment	47,044	43,470	18,142	6,521	28,902	36,949
Audiovisual equipment	27,471	–	2,470	–	25,001	–
Clean room under capital lease	802,544	783,120	221,216	78,312	581,328	704,808
Leasehold improvements	336,750	246,749	122,252	20,562	214,498	226,187
	$ 1,431,686	$ 1,247,927	$ 435,860	$ 142,858	$ 995,826	$ 1,105,069

4. Intangible Asset

	1998	1997
License fee	$ 200,000	$ 200,000
Accumulated amortization	(22,000)	(14,000)
Net book value	$ 178,000	$ 186,000

5. Capital Stock

(a) Authorized

Authorized capital stock of the Corporation consists of an unlimited number of common shares and an unlimited number of preferred shares issuable in series.

(b) Issued

On April 1, 1996, the founders of the Corporation purchased 6,165,000 common shares for $6,165.

On May 17, 1996, the Corporation issued 685,000 common shares to employees and other individuals for total cash consideration of $685.

On May 23 and 27, 1996, 550,000 common shares were issued through a private placement of shares for net proceeds of $1,584,897 after deducting issue costs of $65,103.

On December 17, 1996, 2,750,000 common shares were issued through the Corporation's initial public offering (IPO) for net proceeds of $15,875,590 after deducting issue costs of $2,889,410.

On June 3, 1998 the Corporation issued 2,093,000 special warrants through a private placement for net proceeds of $12,880,431 after deducting issue costs of $1,351,969. On July 23, 1998, these special warrants were converted into 2,093,000 common shares for no additional consideration.

(c) Employee stock option plan

On December 7, 1996, the Corporation adopted the employee stock option plan (ESOP). The maximum number of shares which may be reserved and set aside under options to eligible persons pursuant to the ESOP may not exceed 475,000 common shares. The maximum number of common shares at any time available for issuance under the ESOP, or pursuant to other outstanding options, to any one person may not exceed 2% of the common shares then issued and outstanding. The ESOP is administered by the Compensation Committee of the Board of Directors appointed by the Board of Directors. The option exercise price for all options issued under the ESOP is based on the fair market value on the date of grant. The options vest in equal portions over a five year period and must be exercised within a four year period from each date of vesting.

The Corporation has agreed to grant options in future years to certain employees, subject to specific performance requirements, as follows:

1999 25,000 2000 25,000

On December 17, 1996 the Corporation granted to one officer an additional option outside the ESOP for 150,000 common shares, which was to become exercisable when the Corporation achieved cumulative gross revenues of at least US $50 million. The non-plan option was cancelled effective February 24, 1998.

During 1998, the Corporation granted to directors and to one executive options outside the ESOP for 21,500 common shares vesting ratably over one year from the date of grant.

Information with respect to stock option activity for 1998, 1997 and 1996 is as follows:

	Number of shares	Weighted average Exercise Price
Granted	39,000	$ 6.80
Outstanding at December 31, 1996	39,000	6.80
Granted	36,500	6.80
Outstanding at December 31, 1997	75,500	6.80
Granted	192,614	8.63
Cancelled	(11,729)	8.95
Outstanding at December 31, 1998	256,385	$ 8.08

Information with respect to stock options outstanding at December 31, 1998 is as follows:

Range of exercise price	Number outstanding	Weighted average exercise price	Weighted average life
$ 6.80	133,000	$ 6.80	5.6
$ 9.25	114,966	9.25	6.5
$ 11.75 - $12.50	8,419	12.18	6.7
	256,385	$ 8.08	6.0

The outstanding options expire between December 31, 1998 and October 27, 2007. At December 31, 1998, 44,400 (1997 - 7,800) options were exercisable at an exercise price of $6.80.

(d) Outstanding warrants

As additional consideration to the underwriters of the IPO of the Corporation's shares, the Corporation granted the Canadian Underwriter non-assignable options entitling the Canadian Underwriter to acquire up to an aggregate of 75,000 common shares at an exercise price of $7.48. These options became exercisable on December 9, 1997 and expire on December 9, 2001. None of these options have been exercised as at December 31, 1998.

The Corporation granted the US Underwriter warrants to purchase up to 200,000 common shares at an exercise price of US $8.25 per share during the four year period commencing December 17, 1997. None of the warrants have been exercised as at December 31, 1998.

As consideration for allowing the private placement of special warrants, the Corporation granted options entitling the US Underwriter of the IPO to acquire up to 35,000 common shares at an exercise price of US$8.25 per share. These options are exercisable immediately and expire on December 9, 2001. In addition the Canadian agents for the private placement received 209,300 compensation warrants, each of which entitles them to acquire without additional payment, an option to acquire one common share of the Corporation at a price of $7.48 per share until September 1, 2000. Subsequent to year end, 41,860 of the Canadian agents' options were exercised for proceeds of $313,113.

(e) Earnings per share

For all of the years presented, fully diluted loss per share equals basic loss per share due to the anti-dilutive effect of employee stock options and warrants. The following outstanding instruments could potentially dilute basic earnings per share in the future:

	1998	1997	1996
Employee stock options	256,385	75,500	39,000
Warrants	519,300	275,000	275,000
Total potentially dilutive instruments	775,685	350,500	314,000

6. Income Taxes

	1998	1997	1996
Combined Canadian federal and provincial income tax rate	44.6%	44.6%	44.6%
Income tax recovery based on combined Canadian federal and provincial rate	$ 1,615,071	$ 4,210,721	$ 1,152,191
Non-deductible amounts	(96,361)	(14,800)	(12,924)
Valuation allowance	(1,518,710)	(4,195,921)	(1,139,267)
Provision for income taxes	$ –	$ –	$ –

As at December 31, 1998, the Corporation has unclaimed Scientific Research and Experimental Development (SR&ED) expenditures of approximately $15,000,000 (1997 - $8,100,000,1996 - $1,500,000), income tax loss carry forwards of approximately $2,200,000 (1997 - $4,400,000, 1996 - $1,300,000) and investment tax credits of approximately $2,600,000 (1997 - $2,100,000, 1996 - $300,000).

Revenue Canada is currently auditing the 1996 and 1997 accounts and has proposed to reclassify amounts previously accounted for as tax loss carry forwards to qualifying SR&ED expenditures.

The SR&ED expenditures can be carried forward indefinitely and applied to reduce income taxes otherwise payable in future years. The loss carry forwards will expire beginning in the year 2003. Investment tax credits will begin to expire in the year 2007.

7. Related Party Transactions

The following related party amounts are included in amounts receivable and accounts payable and accrued liabilities.

	1998	1997	1996
Due from CVD	$ 164,107	$ 258,612	$ 92,163
Due from SC Stormont Corporation	5,396	1,640	–
Due from shareholder	4,849	6,166	22,300
	$ 174,352	$ 266,418	$ 114,463
Due to CVD	$ 491,770	$ 719,438	$ –
Due to SC Stormont Corporation	–	–	3,600
	$ 491,770	$ 719,438	$ 3,600

During the period ended December 31, 1996, the Corporation purchased fixed assets from SC Stormont Corporation, an organization owned by a principal shareholder, at a cost of $88,134. This price was established from the organization's net book value of the assets. During the period ended December 31, 1996, the Corporation paid CVD $200,000 for a twenty-five year license agreement.

Total rent paid to SC Stormont Corporation pursuant to a sublease agreement during the year ended December 31, 1997 was $106,600 (1996 - $74,000).

During the year ended December 31, 1998, the Corporation paid $150,000 (1997 - $225,000, 1996 - $75,000) to CVD relating to the research chair under the Research Agreement entered into by the two organizations. In addition, the Corporation paid $400,000 for research and development fees in 1998 (1997 - $6,600,000, 1996 - $1,500,000).

Also during 1998, the Corporation incurred salary expense of $3,294,295 (1997 - $1,879,023, 1996 - $204,546) relating to employees that have been seconded by the Company to CVD.

8. Contingencies and Commitments

Research Agreement

The Corporation's research funding commitment under the Research Agreement is for a minimum of $15 million over the period commencing April 1, 1996 and ending April 1, 2000. It is estimated by the Corporation that the total research costs incurred by CVD for the same period will be $26.6 million. The balance of CVD's research costs for the next two years are to be funded primarily by a contribution from the Canadian government and by CVD. In the event such $26.6 million in aggregate funding proves insufficient to complete the research and development of HEARTSAVER VAD™, the Corporation has agreed to fund, to the extent reasonable (and to the extent funding is not available from other sources), any additional research and development costs incurred by CVD in connection with such product development. In addition, the Corporation has also agreed to fund, to the extent reasonable, the costs of the product's commercialization, currently budgeted at approximately $47.3 million. The Research Agreement provides that any funding for research and development of HEARTSAVER VAD™ provided by the Corporation in excess of $33 million will be creditable against any future CVD royalty entitlement over a period up to ten years, with interest at 8% per annum from the year in which such excess is provided. The Research Agreement stipulates that the parties will negotiate to establish payment terms for repayment of any remaining balance, provided that if agreement as to such payment terms is not reached then such remaining balance shall become due and payable by CVD within twelve months following the end of the respective ten-year period.

The Corporation has also agreed with CVD to fund $150,000 per year for the period from July 1, 1996 to June 30, 2001 for a research chair in medical devices at the University of Ottawa Heart Institute.

The anticipated payments to be made pursuant to the Research Agreement in 1999 are $7.6 million. This amount, when paid, will bring the total amounts paid by the Corporation under the Research Agreement to $16.1 million.

Legal Proceedings

The Corporation filed a complaint against Abiomed, Inc. in the federal district court for the district of Delaware on January 20, 1998, based on alleged breach of contract, misappropriation of trade secrets, conversion of trade secrets and patent infringement by Abiomed, Inc. relating to the Corporation's patented TET technology. Abiomed, Inc. has filed an answer denying the allegations and a counterclaim for a judgement declaring the Corporation's patent invalid.

9. Operating Leases

The Corporation is committed to minimum lease payments for office facilities and equipment as follows:

Year ended December 31, 1999	$ 395,000
2000	285,000
2001	4,000

10. Capital Lease Obligation

During the year ended December 31, 1997, the Corporation entered into a capital lease agreement. The lease commenced in December 1997 and is for a sixty-five month term with interest charged at a floating rate equal to the prevailing rate for Bankers' Acceptances plus 3%.

The Corporation has provided a $684,656 letter of credit in favour of the lessor to cover the term of the lease (1997 - $784,000). As collateral for this letter of credit, the Corporation has pledged $517,444 (1997 - $784,000) in cash and cash equivalents.

The minimum lease payments, prior to any adjustment for changes in interest rates, are as follows:

Year ended December 31, 1999	$ 173,796
2000	173,796
2001	173,796
2002	173,796
2003	64,923
	760,107
Less amount representing interest	(112,436)
Capital lease obligation	$ 647,671

11. Net Change in Operating Components of Working Capital

The net change in operating components of working capital is comprised of:

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996
Amounts receivable	$ (2,565)	$ (86,038)	$ (219,636)
Prepaid expenses	(39,796)	(20,610)	(289,634)
Accounts payable and accrued liabilities	(61,475)	946,784	689,148
	$ (103,836)	$ 840,136	$ 179,878

12. United States Accounting Principles

The financial statements have been prepared in accordance with GAAP in Canada. These principles differ in the following material aspects from US GAAP:

(a) Statements of loss

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996	Period from April 1, 1996 to December 31, 1998
Net loss in accordance with Canadian GAAP	$ (3,665,269)	$ (9,436,846)	$ (2,582,230)	$ (15,684,345)
Compensation expense adjustment for shares issued below the IPO price (1)	–	–	(48,663,150)	(48,663,150)
Net loss in accordance with US GAAP	$ (3,665,269)	$ (9,436,846)	$ (51,245,380)	$ (64,347,495)
Loss per common share				
Weighted average number of common shares outstanding (2)	11,078,948	10,150,000	7,505,479	
Basic and diluted loss per common share (2)	$ (0.33)	$ (0.93)	$ (6.83)	

(1) Under US GAAP, the difference between the issue price and IPO price of shares issued within a one year period prior to the IPO is generally accounted for as an expense and charged against earnings for the period with a corresponding and equal amount recorded as paid in capital. This difference of $48,663,150 increased the accumulated deficit and capital stock reported for the period ended December 31, 1996 under US GAAP with no difference reported in total shareholders' equity.

(2) Under US GAAP, the calculation of basic loss per share includes, as outstanding for the entire period, all shares issued for consideration below the IPO price.

The Corporation has reported basic and fully diluted earnings per share according to Canadian generally accepted accounting principles. This presentation complies with Statement of Accounting Standards (SFAS) No. 128, "Earnings Per Share", where "fully diluted" earnings per share equals the SFAS 128 "diluted" earnings per share.

(b) Statements of cash flow

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996	Period from April 1, 1996 to December 31, 1998
Cash provided from (used in) operating activities	$ (3,464,623)	$ (8,456,602)	$ (2,403,989)	$ (14,325,214)
Cash provided from (used in) investing activities	(8,427,987)	6,970,375	(8,400,795)	(9,858,407)
Cash provided from (used in) financing activities	12,754,636	(476,411)	17,467,337	29,745,562
Increase (decrease) in cash and cash equivalents for the period	862,026	(1,962,638)	6,662,553	5,561,941
Cash and cash equivalents, beginning of the period	4,699,915	6,662,553	–	–
Cash and cash equivalents, end of the period	$ 5,561,941	$ 4,699,915	$ 6,662,553	$ 5,561,941

(c) Share based compensation

The Corporation has adopted the disclosure-only provisions of Statement of Financial Accounting Standards No. 123, "Accounting for Stock Based Compensation" (SFAS 123). The Corporation applies Accounting Principles Board opinion No. 25, "Accounting for Stock Issued to Employees" in accounting for its stock option grants and accordingly, because the exercise price of employee stock options equals the market price of the underlying common shares on the date of grant, no compensation expense has been recognized for grants made during the period.

Had compensation costs been determined based on the fair value of options on the date of grant, consistent with the methodology prescribed under SFAS 123, the Company's net loss and loss per share would have increased to the following pro-forma amounts.

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996
Net loss under US GAAP	$ (3,665,269)	$ (9,436,846)	$ (51,245,380)
Estimated share based compensation costs	(146,237)	(29,087)	(1,057)
Pro forma net loss	$ (3,811,506)	$ (9,465,933)	$ (51,246,437)
Pro forma basic loss per share	$ (0.34)	$ (0.93)	$ (6.83)

The weighted average fair value of the options issued during the year ended December 31, 1998 was $5.37 (1997 - $4.28, 1996 - $3.68). This fair value of each option granted during 1996 and 1997 is estimated on the date of the grant using the Black-Scholes model with the following weighted average assumptions:

	1998	1997	1996
Expected option life, in years	7	7	7
Volatility	62.6%	65.3%	50.6%
Risk free interest rate	5%	5%	5%
Dividend yield	Nil	Nil	Nil

13. Financial Instruments

Financial instruments recognized in the balance sheet consist of cash and cash equivalents, short-term investments, amounts receivable, accounts payable and accrued liabilities and a capital lease. The Corporation does not hold or issue financial instruments for trading purposes and does not hold any derivative financial instruments.

(a) Fair value

The Corporation believes that the carrying values of its financial instruments other than the capital lease approximates their fair values because of their short terms to maturity. The carrying value of the capital lease obligation also approximates fair value because of its floating, market rate of interest.

(b) Interest rate risk

The Corporation is subject to interest rate risks because of the short-term to maturity of its cash equivalents and short-term investments and the floating rate nature of its capital lease.

14. Year 2000 Uncertainty

The Year 2000 issue arises because many computerized systems use two digits rather than four to identify a year. Date-sensitive systems may recognize the year 2000 as 1900 or some other date, resulting in errors when information using year 2000 dates is processed. In addition, similar problems may arise in some systems which use certain dates in 1999 to represent something other than a date. The effects of the Year 2000 Issue may be experienced before, on, or after January 1, 2000, and, if not addressed, the impact on operations and financial reporting may range from minor errors to significant systems failure which could affect an entity's ability to conduct normal business operations. It is not possible to be certain that all aspects of the Year 2000 Issue affecting the entity, including those related to the efforts of customers, suppliers, or other third parties, will be fully resolved.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

The following discussion explains material changes in the Corporation's financial condition and results of operations for the year ended December 31, 1998 with comparisons to the year ended December 31, 1997 and the nine months ended December 31, 1996. The audited financial statements, notes to the financial statements, and supplementary information constitute an integral part of this discussion and should be read in conjunction with these comments.

The discussion contains both historical information and forward looking information. The forward looking information, which generally is information stated to be anticipated, expected, or projected by the Corporation, involves known and unknown risks, uncertainties and other factors which may cause the actual results and performance of the Corporation to be materially different from any future results and performance expressed or implied by such forward looking information. Potential risks and uncertainties include, without limitation, the uncertainties inherent in the development of a new product for use in the human body, the Corporation's need for significant additional funding, the Corporation's need for acceptance from third party payers, extensive Government regulation of the Corporation's product, and rapid developments in technology, including development by competitors.

WorldHeart is a medical devices business focussed on the commercialization of artificial heart and related technologies for which the worldwide rights were acquired from the University of Ottawa Heart Institute (OHI) in 1996. The continuing research and development of these technologies is carried out by the Cardiovascular Devices Division of the Ottawa Heart Institute Research Corporation.

WorldHeart's main focus and product is a ventricular assist device (VAD) known as HEARTSAVER VAD™. HEARTSAVER VAD™ is a patented pulsatile VAD which is totally implantable in the chest cavity alongside the natural heart. HEARTSAVER VAD™ is intended for permanent use and leaves no openings in the skin or tissue and can be remotely powered, monitored and controlled using proprietary Transcutaneous Energy Transfer (TET) and Biotelemetry technologies. Recipients are expected to leave the hospital and resume relatively normal day-to-day activities.

Activities of the Corporation

During 1998, the Corporation established a wider profile based on increased medical and investor community awareness. Activities during 1998 are outlined below.

Component Prototyping

Major subsystems of the pre-clinical HEARTSAVER VAD™ were fabricated and made functional during the year. Accomplishments in this regard include: the completion and delivery of the first in-house manufactured energy converter; unit volume of HEARTSAVER VAD™ was reduced by 11%; the clinical conduits (with tissue valves) were fabricated; first 4 pre-clinical systems fabricated (achieving 1998's major milestone); titanium housing and custom ASIC engineering was completed and brought into production; TET prototype systems were manufactured for internal use and initial sales for research use were made; implantable connectors design was completed and manufacturing was initiated; full system and component level bench testing was undertaken.

Patents

During the year a second United States patent was issued which specifically covers the design and shape of HEARTSAVER VAD™ and a Canadian patent was issued covering the enhanced TET.

Financial Market Accomplishments

There were several financial market accomplishments during 1998 including: incremental equity funding was obtained through a private placement of special warrants which resulted in gross proceeds of $14.2 million, approval was obtained for listing of the Corporation's common shares on The Toronto Stock Exchange under the symbol "WHT" (prior to this the shares were traded over the counter through the Canadian Dealing Network in Canada), and approval for an upgrade of the listing to the Nasdaq National Market under the symbol "WHRTF" (prior to this the shares were listed on the Nasdaq SmallCap Market).

Activities during 1997 and 1996 are outlined below.

Accomplishments during fiscal 1997 included: the implementation of a Clinical Advisory Board; an agreement to license from a third party the technology for the production of the energy converter that is used to drive the pumping action of HEARTSAVER VAD™; continued bench and *in vivo* animal trials to permit the finalization of design specifications; and, completion of the development of HEARTSAVER VAD™ with the elective termination of a 30-day *in vivo* trial of Version 5 of HEARTSAVER VAD™, after the successful achievement of predetermined goals. Other notable accomplishments included the Corporation's agreement with The Cleveland Clinic Foundation under which The Cleveland Clinic Foundation will collaborate generally with researchers at the Corporation and OHI and on the pre-clinical test preparations and program, and the Corporation's receipt from the Cardiovascular Devices Division of the University of Ottawa Heart Institute (CVD) of final system requirement specifications for Version 6 of HEARTSAVER VAD™.

During 1996, the Corporation was principally focused on negotiating contracts and acquiring the rights to HEARTSAVER VAD™ and related technologies; providing support to CVD; and completing both a private placement and a subsequent public issue of the Corporation's common shares.

Results of Operations

The financial statements are prepared in accordance with generally accepted accounting principles (GAAP) in Canada and are stated in Canadian dollars.

Statements of Loss

	Year Ended December 31, 1998		Year Ended December 31, 1997		Nine Months Ended December 31, 1996	
		As a % of net loss		As a % of net loss		As a % of net loss
General and administrative	$ (3,230,687)	88.1%	$ (2,624,742)	27.8%	$ (837,073)	32.4%
Research and development	(1,004,038)	27.4%	(7,166,038)	75.9%	(1,788,418)	69.2%
Total expenses	(4,234,725)	115.5%	(9,790,780)	103.7%	(2,625,491)	101.6%
Net revenue	19,062	(0.5%)	–		–	
Investment income	550,394	(15.0%)	353,934	(3.7%)	43,261	(1.6%)
Net loss for the period	$ (3,665,269)	100.0%	$ (9,436,846)	100.0%	$ (2,582,230)	100.0%

Year ended December 31, 1998, compared to the year ended December 31, 1997 and the nine months ended December 31, 1996

General and Administrative

General and administrative expenses consist primarily of personnel costs, professional fees, communications, promotional activities, occupancy costs and other miscellaneous costs associated with meeting multi-jurisdictional regulatory requirements.

General and administrative expenses in 1998 increased 23% over the previous fiscal year. The increase is attributable to legal fees incurred related to the Abiomed litigation that was initiated by the Corporation, costs related to an upgrade in share listing status from Nasdaq SmallCap Market to Nasdaq National Market listing status, costs of pursuing and obtaining a listing on The Toronto Stock Exchange and a general increase in marketing and promotional activity both with respect to the product and the Corporation. The increase in marketing and promotional activities was expected as the Corporation continued to focus on company and product awareness within the medical and investment communities. The 1996 expenditures were significantly lower than both 1997 and 1998 as this was the first nine months of operations and costs related to commercialization activities, employees, corporate infrastructure and the costs of meeting multi-jurisdictional regulatory requirements were all significantly lower.

Research and Development

The primary component of the research and development expenditures relates to contractual payments to CVD under a research agreement (the Research Agreement) where the Corporation contracted with CVD for a minimum funding commitment of $15 million, for the period 1996 through 1999, to carry out research required by the Corporation. Research and development expenditures also include: personnel costs; consulting fees and other costs to support product research and development and to secure supplies of strategic materials; costs related to pre-clinical and clinical trials, physician training, and regulatory submissions; costs incurred in producing prototype products for research and development activities and clinical trials; and, costs associated with pursuing patent applications relating to the Corporation's technology.

At the request of CVD, there have been adjustments to the Research Agreement relating to the timing of research payments. At the end of 1996, CVD requested an increase in payments for the 1997 fiscal year to cover anticipated program activities for 1997 and to cover any shortfall in the receipt of contracted government payments. As a result, the Corporation increased the payments in 1997 from the original amount of $4,400,000 to $6,600,000.

A second adjustment to the schedule of research payments occurred at the end of 1997 for the 1998 and 1999 fiscal years. Due to WorldHeart's additional payments in 1997 and the timely receipt of government payments, CVD determined that it would have sufficient cash resources on hand to fund the research activities for 1998 with the addition of $400,000 from the Corporation. As a result, the Corporation's research payments during 1998 were $400,000. This is the reason for the 86% decrease in research and development expenditures from the 1997 fiscal year.

The latest adjustment to the schedule of research payments provides for payments of $7.6 million during 1999. This amount, when paid, will bring the total amounts paid by the Corporation under the Research Agreement to $16.1 million. The Research Agreement contemplates the possibility of payments to CVD in excess of $15 million. In the event such payments in the aggregate exceed $33 million, the Research Agreement provides that payments in excess of that amount shall be recoverable by the Corporation against accrued but unpaid royalty payments otherwise due to CVD.

The Corporation also has a commitment to provide CVD with $150,000 per year until 2001 to fund a research chair in cardiovascular devices at the University of Ottawa Heart Institute.

Revenue

Although no revenue was anticipated to be earned during the year, net revenue of $19,062 was recognized on the sale of 2 TET systems to a third party.

Investment Income

Investment income primarily represents interest earned by the Corporation on its cash equivalents and short-term investments.

Investment income in 1998 increased 56% over the 1997 amount. This increase in investment income is the result of an increase in the Corporation's cash balance due to the sale of special warrants in June 1998.

Capital Expenditures

	Year Ended December 31, 1998	Year Ended December 31, 1997	Nine Months Ended December 31, 1996
Capital expenditures	$ 123,445	$ 1,153,220	$ 95,587

As anticipated, no material capital expenditures were incurred during 1998. Capital expenditures during 1998, for the most part, related to leasehold improvements to the facilities and the acquisition of computer equipment for new employees.

Expenditures during 1997 were significantly higher due to the establishment of a pilot manufacturing plant, the cost of which was in part financed by a capital lease arrangement, which commenced in December 1997 for a 65-month term.

The total space for the plant and related office space, which is being leased over a three year term ending September 30, 2000, is 22,755 square feet. The Corporation has the option to renew the lease for two terms of one year each on the same terms.

Employees

The Corporation is committed to employing qualified personnel with appropriate expertise in its research and development and its business operations. At December 31, 1998, the Corporation employed 77 full time staff members. Of these employees, 60 were directly involved with research and development and were assigned to CVD. The Corporation is reimbursed for the salaries and benefits of these employees from the research funding provided to CVD by the Corporation under the Research Agreement. In addition to these staff members, CVD has advised the Corporation that there are approximately 90 clinical and professional staff and volunteers, affiliated with CVD, involved in delivering the HEARTSAVER VAD™ project.

Market Risk

The following summarizes the Corporation's investment instruments entered into for other than trading purposes at December 31, 1998.

	Total	Maturity Dates
Cash equivalents		
Short term asset backed notes	$ 5,873,175	Jan. 8, 1999 - Jan. 27, 1999
Short-term investments		
Short term asset backed notes	$ 3,028,235	Jan. 5, 1999 - Jan. 7, 1999
Corporate bonds	5,542,862	Apr. 14, 1999 - Jun. 15, 1999
	$ 8,571,097	

Market risk is mitigated by close adherence to an established investment policy which has been approved by the Board of Directors. The policy sets conservative criteria with respect to liquidity, counter-party diversification and where appropriate, risks associated with collateral underlying secured instruments. The Corporation is not significantly exposed to capital risk as the portfolio consists of high quality instruments that are short term in nature and it is well diversified. There exists modest income exposure to a decline in interest rates. This also is not significant due to the short terms to maturity of the instruments held.

Liquidity and Capital Resources

Since inception, the Corporation has financed its operations entirely through public and private issues of its common shares. New equity funding during 1998 entailed a private placement of special warrants with gross proceeds of $14.2 million (net proceeds of $12.9 million), completed in July 1998.

At December 31, 1998, the Corporation had working capital of $13,489,597 (1997 - $4,026,062). The Corporation had cash, cash equivalents and short term investments of $14,650,483 (1997 - $5,483,915) of which $517,444 (1997 - $784,000) has been pledged as security for the capital lease arrangement. The increase in these amounts is attributable to the special warrant issue during the year. During 1998 the Corporation applied $3.2 million to general and administrative activities and $1.0 million to research and development activities. As described under "Results of Operations – Research and Development", the payments to CVD under the Research Agreement were significantly lower in 1998 than 1997. Research and development activities continued at the maximum pace contemplated under CVD's contractual obligations to the Corporation.

Expenses of the Corporation in 1999 are expected to include general and administrative costs (including marketing) of approximately $5.1 million and research and development costs of approximately $8.8 million. The projected research and development costs include payments to CVD under the Research Agreement of $7.6 million. Expenses in total are expected to increase significantly during 1999 over 1998 due largely to increased research and development expenditures to fund the research payments to CVD and other research and development costs not covered by these costs. No revenues are forecast for the 1999 fiscal year.

The Corporation expects that its cash resources, consisting of existing cash, cash equivalents and short-term investments, will support research and development and other expenditures through the end of 1999 and into the first quarter of 2000. The Corporation will be required to seek additional equity financing to fund product development costs, including clinical trials, in 2000 and 2001. The Corporation has no current arrangement with respect to sources of additional financing, and there can be no assurance that additional financing will be available to the Corporation when needed, on commercially reasonable terms, or at all. In addition, any additional equity financing may involve substantial dilution to the Corporation's then existing shareholders.

It is anticipated that there will be minimal increases in administrative staff levels. Any increases in research and development staff levels will be assigned to CVD and the related costs will be within CVD's contracted funding under the Research Agreement with the exception of director (or higher) level hires, the costs of which will be incurred directly by the Corporation. The Corporation expects such hires to be primarily in the following areas: Clinical Affairs, Regulatory Affairs, Quality Assurance, and Design and Development.

OTHER FACTORS

WorldHeart's business and future depends on the success of HEARTSAVER VAD™. HEARTSAVER VAD™ is a pulsatile VAD which is fully implantable in the chest cavity. Pulsatile VADs, using pumps that are either externally placed, or abdominally implanted, have been demonstrated to be effective in supporting the blood circulation of patients with failing hearts.

Pulsatile VADs

WorldHeart has several competitors with approved pulsatile VADs with pumps that are externally located or abdominally implanted. The devices developed by its competitors are presently primarily in use as a bridge to transplant. Some of the Corporation's existing known competitors have significantly greater financial, production and marketing resources than the Corporation.

WorldHeart believes its HEARTSAVER VAD™ is the only pulsatile VAD that is currently at an advanced stage of development that is fully implantable in the chest cavity.

Non-pulsatile VADs

Research and development is proceeding in several centres for non-pulsatile continuous flow assist devices. These devices are currently being tested in humans. It has not been determined whether these non-pulsatile devices will be acceptable for long term use. If proven safe and effective, and given regulatory approval, non-pulsatile assist devices approved for long-term use could have an adverse effect on the market for HEARTSAVER VAD™.

Clinical trials

HEARTSAVER VAD™ will be undergoing pre-clinical trials in 1999, however, there can be no assurance that regulatory approval will be received in order to commence clinical trials during 1999.

Year 2000 Compliance

The Year 2000 issue stems from the fact that certain computer systems use and store only the last two digits of the year in any date, assuming that all years are in the range 1900 to 1999. Consequently, when a computer system encounters a date representing the year 2000, it may interpret the date as 1900, which may cause it to process information incorrectly, not process information at all or potentially fail.

The Corporation is an extensive user of PC-based standard office technology and its operations and business processes are highly dependent on these systems. In addition, the Corporation is dependent on a number of key suppliers and contractors in its ongoing operations. The Corporation recognizes the need to take reasonable steps to ensure its operations will not be adversely impacted by the Year 2000 issue. As the Corporation prepares for the commercialization of HEARTSAVER VAD™, emphasis is being placed on ensuring that all systems are Year 2000 compliant. Initial commercial production and distribution of HEARTSAVER VAD™ by the Corporation is not expected to commence until late in the year 2000. The Corporation therefore has the opportunity, prior to such time, to complete the components of the commercial version of its product, including, in particular, software to monitor and control HEARTSAVER VAD™ and PC-based testing software, with a view to ensuring that they are Year 2000 compliant. The costs of such compliance have been factored into the Corporation's commercialization plan and the Corporation does not anticipate that it will meet with unusual or insurmountable difficulties or material additional costs.

In 1998 the Corporation mandated its Vice President, Corporate Services to complete a Year 2000 impact assessment, including all aspects relating to manufacturing, financial and other systems currently used by the Corporation. In addition, the assessment sought to determine the readiness of key suppliers, and enable the Corporation to develop and implement a formal plan to ensure compliance for these systems and all systems to be included in the Corporation's commercial version of HEARTSAVER VAD™ which could be affected.

The Corporation's impact assessment has been completed and a formal readiness plan is under development. Based on the impact assessment, internally developed components (including related software) are in the final stages of product development. Included within the Corporation's qualification test plan is Year 2000 verification. These components will undergo formal testing, including Year 2000 compliance, throughout 1999.

For externally produced components, the Corporation is developing a plan to either upgrade non-compliant software when a compliant version is made available or to replace the software with compliant software. The Corporation's target is to have all new and/or upgraded components installed and tested by June 30, 1999.

There can be no assurance that such measures will prevent all possible disruptions. The Corporation is also reliant on suppliers and the proper functioning of their systems, products and software. Disruptions caused by failures of the Corporation's own systems or those of its suppliers may have a material impact on the Corporation's operations and financial results.

WORLDHEART

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